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Meteorological drought analysis case study: Central Anatolia

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ABSTRACT

Drought is one of the major disasters which might have consequences like hunger and poverty. The droughts depend on many factors including climatic and regional properties, soil type, population increase and environmental degradation. The complex character of drought makes it difficult to define. Hence, various specific criteria must be defined and used for the evaluated basin, region or territory to determine drought. In this study, several drought analysis methods are performed on the Central Anatolian Region in Turkey where has survived a severe drought. In comparative analysis, Palmer Drought Severity Index (PDSI), Erinc and De Martonne methods were used. The evaluated data consist of the observed monthly mean precipitation and temperature data of 13 selected meteorology stations in the region. The observed data in between 1965–2006 periods were evaluated for all stations. Thus, the distribution of dry and wet periods is investigated at monthly time scale. The comparative results show that PDSI index indicates more humid conditions than Erinc and De Martonne indices. Nevertheless, the results verify that the region is still in danger of severe drought.

Keywords: De Martonne method; Drought; Erinc method; Palmer drought severity index

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